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REPORT
ON THE PROPERTIES OF THE
Summit Coal Company

SITUATED IN
Marshall County, State of West Virginia.

BY
LEO VON ROSENBERG.

ACCOMPANIED BY SEVERAL MAPS AND ILLUSTRATIONS

WITH EXTRACTS FROM
SEVERAL ANNUAL REPORTS OF THE
U. S. GEOLOGICAL SURVEY

AND
VOL. TWO, COAL REPORT,
WEST VIRGINIA GEOLOGICAL SURVEY.

DR. I. C. WHITE, State Geologist.

NEW YORK
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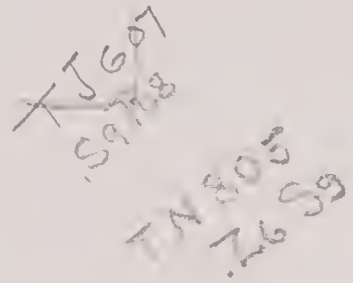
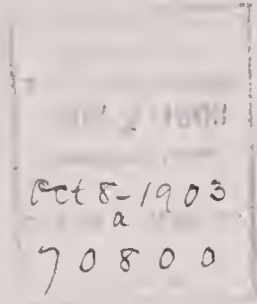
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Literature and Authorities.

West Virginia Geological Survey, Volume Two,
Report on Coal, by Dr. I. C. White, State Geologist.

"The Northern Appalachian Coal Field,"
Twenty-Second Annual Report of the U. S. Geological
Survey.

"The Appalachian Coal Field,"
Fourteenth Annual Report of the U. S. Geological
Survey.

Bulletin 65, U. S. Geological Survey.

Maryland Geological Survey, Wm. Bullock Clark, State Geologist,
and others.

REPORT
ON
The Properties of the Summit Coal Company

LOCATION AND GENERAL FEATURES

The properties of this Company, consisting of two large coal tracts, are situated in the County of Marshall, State of West Virginia. They lie in the heart of the Northern Appalachian coal field, which is by far the most important of the bituminous coal fields of the United States in area, in the quality of its coal, the number and thickness of workable beds, and in importance and accessibility of its markets.

The tracts are known as the "BELTON" COAL TRACT, and the "GLEN EASTON" COAL TRACT.

The BELTON tract, consisting of 6500 acres of Coal Lands, is situated in the southeastern part of the county, on the main line of the Baltimore & Ohio railroad, about three miles west of the state line of Pennsylvania, and about 60 miles southwest of the city of Pittsburg, Pa. On the railroad which follows the easterly boundary of the tract and Fish creek for some distance, is the town of Belton, now known as Denver station. A short distance west of Belton, however, the railroad takes a general northerly direction, while the creek takes a general westerly course through the Company's tract for several miles, meandering toward the Ohio river, a navigable stream some 20 miles west of Belton. On the east bank of this river runs the Ohio River railroad, controlled by the Baltimore and Ohio railroad.

The elevation of Belton is 893 feet above sea-level. The elevations along Fish creek decrease gradually toward the Ohio river, and at the point it reaches the river, the elevation is 640 feet above sea-level. The hills on the property rise from four hundred to five hundred feet above the valleys. There is ample room at and near Belton, and along

Fish creek for tracks, hoisting works and buildings, which may be required by the Company.

A map of the tract accompanies this report.

The GLEN EASTON tract, consisting of about 4800 acres of coal lands, lies immediately northwest of the BELTON tract, practically adjoining it.

The main line of the Baltimore & Ohio railroad runs for about two miles along the northern boundary of the tract, through the valley of Grave creek. The main station along the tract is Glen Easton, situated about $4\frac{1}{2}$ miles west of Cameron, 12 miles northwest of Belton, and 14 miles southeast of Moundsville, the county seat of Marshall, county. Loudenville, a station $2\frac{1}{2}$ miles east of Glen Easton, is at the eastern edge of the tract. Glen Easton lies at an elevation of 970 feet above sea-level. The valley of Grave creek, through which the railroad runs, offers many favorable sites for the erection of works, and for the construction of necessary sidings, buildings, etc. On the ridges and ravines within the tract, as well as on lands contiguous to it are many oil wells, as will be seen by the photographs accompanying this report.

A map of this tract is included in this report. The tracts being large, the scale of the maps is necessarily very small.

THE COAL VEINS.

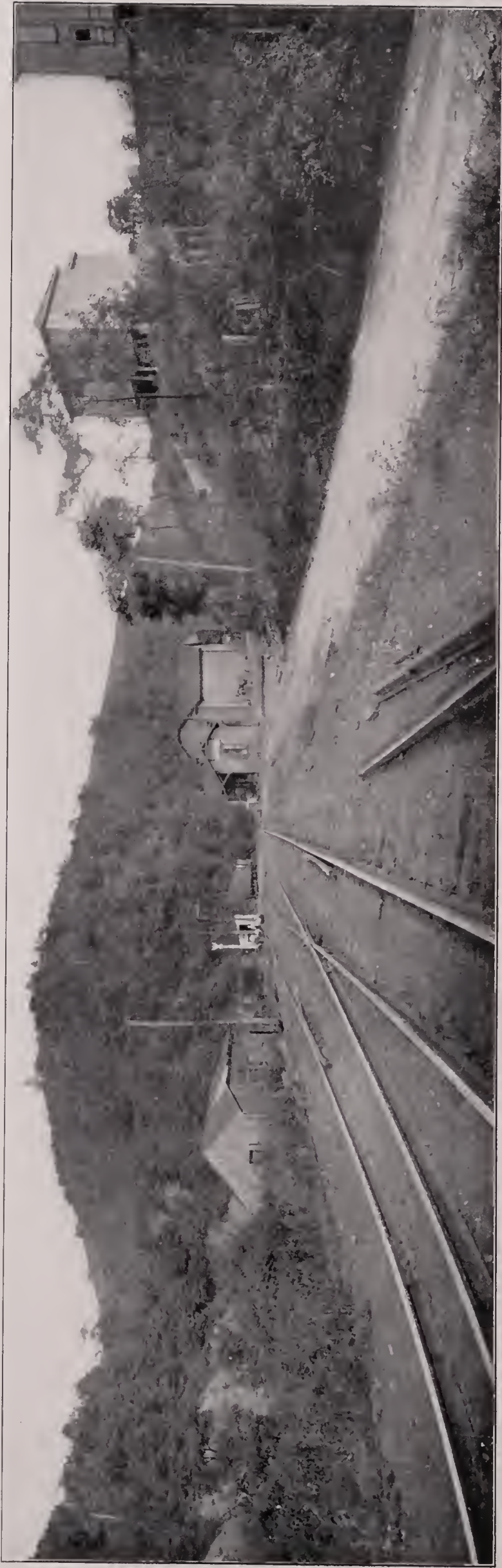
The principal vein on the property is known as the "Pittsburg," which is the base of the Monongahela series. Of this Vein, Dr. I. C. White, State Geologist of West Virginia, in Volume Two of the West Virginia Geological Survey, says :

THE PITTSBURG COAL.

"Among the rich mineral deposits of the great Appalachian field, the Pittsburg coal bed stands pre-eminent. Other coal beds may cover a wider area, or extend with greater persistence, but none surpass the Pittsburg seam in economic importance and value. It was well named by Rogers (H. D.) and his able assistants of the First Geological Survey of Pennsylvania, in honor of the city to whose industrial growth and supremacy it



GLEN EASTON STATION, AT GLEN EASTON COAL TRACT, ON MAIN LINE OF B. & O. R. R.
THE HIGH HILLS BACK OF THE TOWN ARE PART OF THE COMPANY'S COAL LANDS.



DENVER STATION, OR BELTON, AT BELTON COAL TRACT, ON MAIN LINE OF B. & O. R. R.



OIL WELLS ON PART OF GLEN EASTON COAL TRACT AND ADJOINING LANDS.



Most of the Wells have passed through the Pittsburg Vein.

OIL WELLS ON FISH CREEK.

has contributed so much. Whether or no the prophetic eye of that able geologist ever comprehended fully the part which this coal bed was to play in the future history of the city which gave it a name, we do not know ; but certain it is that the seven feet of fossil fuel, which in Rogers' time circled in a long black band around the hills, and overlooking the site of Pittsburg from an elevation of 400 feet above the waters of the Allegheny and Monongahela, extending up the latter stream in an unbroken sheet for a distance of 200 miles, has been the most potent factor in that wonderful growth which has made the Pittsburg district the manufacturing centre of the world."

"That this claim for the supremacy of the Pittsburg district (including Wheeling and the Monongahela river region) is valid can hardly be doubted, when we see its iron, steel, glass and other products going to every part of the western continent, and even invading the long established manufacturing dynasties of Europe."

GAS AND COKE.

(Page 221.)

"The great value of the Pittsburg coal consists in the variety of uses for which it is adapted. Yielding fine results as a general steam and domestic fuel, it is also unexcelled as a gas producer, and with proper care to exclude the sulphurous portions, makes a good quality of coke.

"The coal from the Fairmont region has long been used in the principal cities for the manufacture of illuminating gas, the yield per ton being quite as large and the quality as good as that from the same coal obtained at the famous gas mines of Westmoreland county, Pennsylvania."

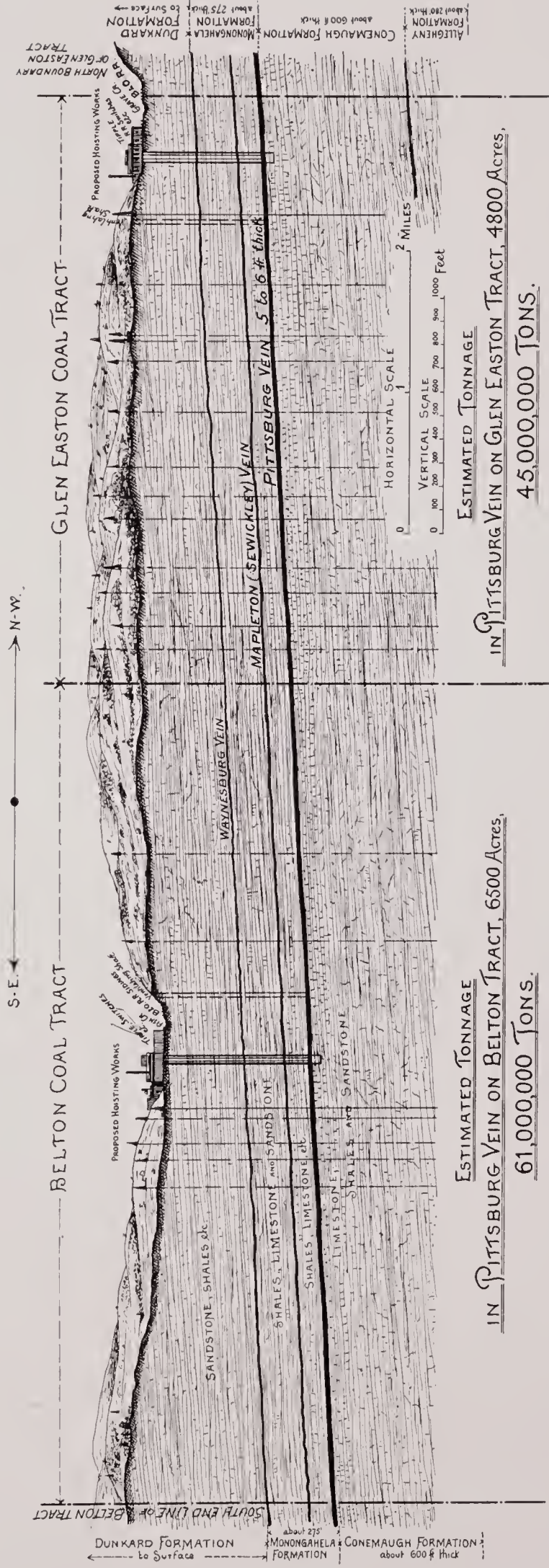
It is of course generally known that the Pittsburg seam is being extensively mined in southwestern Pennsylvania. The properties of this Company lie within three miles of the Pennsylvania state line.

In the Twenty-second Annual Report of the U. S. Geological Survey, in papers on the bituminous coal fields of Pennsylvania, etc., the following statement occurs regarding the great Pittsburg vein.

“This is the most uniform in quality and thickness and for a given area, the most valuable coal bed in the bituminous coal field of Pennsylvania.”

“In quality the coal of the Pittsburg bed is for many purposes equal if not superior to the best bituminous coal found elsewhere in the Appalachian field or in the world. It is an excellent domestic and steam fuel, its calorific value, as determined by Prof. N. W. Lord, being in B. T. U. 13,557. It mines in large blocks, which withstand the rough usage incident to long shipments and frequent breaking of bulk, and consequently it is well adapted for export and for the more distant home markets. It is a high standard producer of illuminating gas, containing from 36 to 38 per cent of volatile combustible matter in portions of the field. For the manufacture of coke the Pittsburg has few if any equals in the United States.”

“The Pittsburg bed of southwestern Pennsylvania is the standard gas and coking coal in North America. It has a high reputation also as a steam coal. Of the enormous tonnage from this bed, including about three-fifths of the total production of bituminous coal in the State, a considerable proportion is consumed in the iron industries and innumerable other manufacturing establishments in Pittsburg and the neighboring cities of western Pennsylvania and eastern Ohio. The famous Connellsville coke is distributed throughout the northeastern United States, Canada, the Western States, and Mexico. The Pittsburg gas coal is distributed from the Atlantic ocean to the Rocky Mountains. Shipments are made to tide water at Baltimore, Philadelphia and New York, or on the Gulf of Mexico by way of barges down the Monongahela and Ohio rivers. A large portion of the consignments to the Southwestern and Gulf States, as well as Mexico, are transported by the water route.”

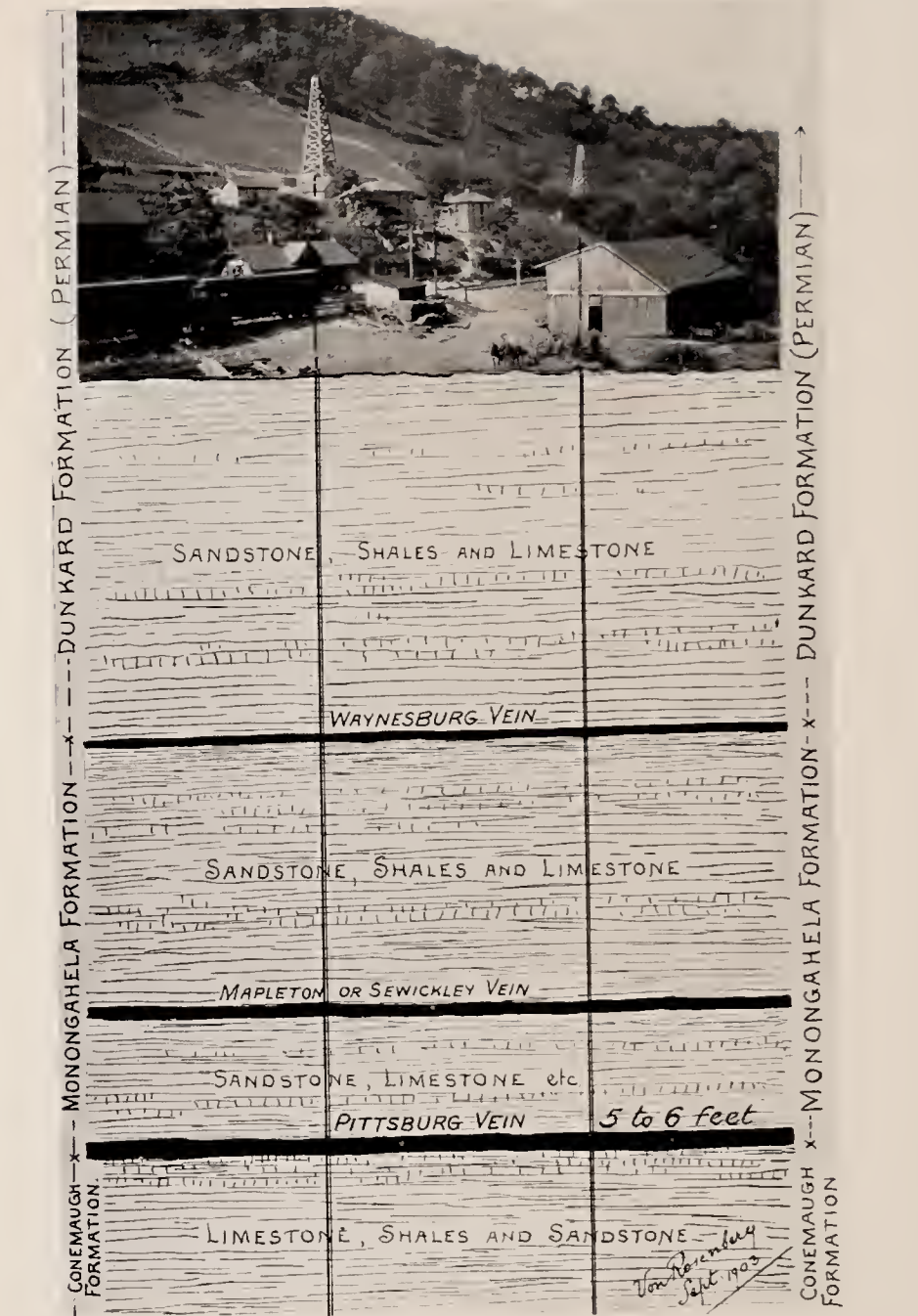
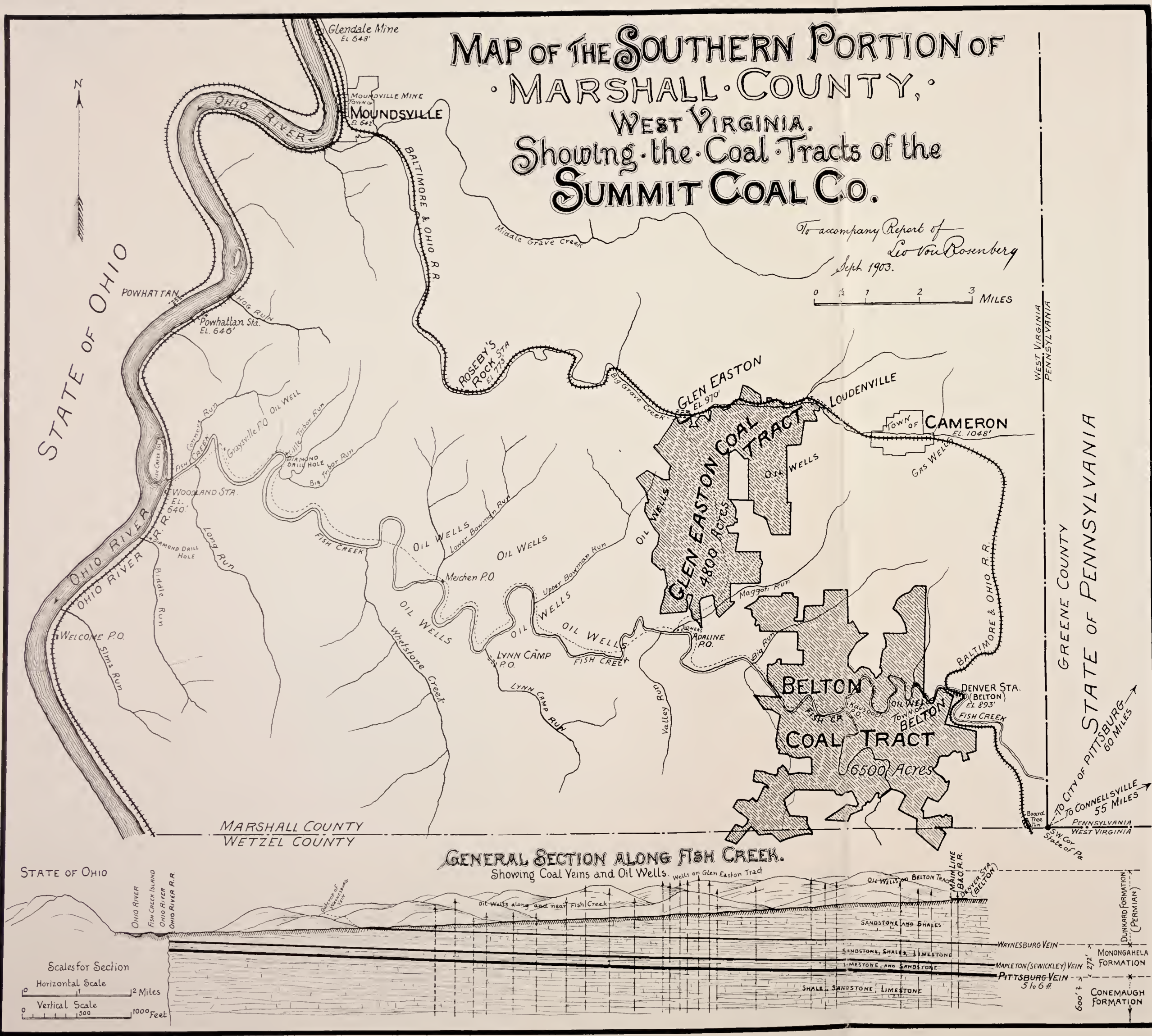


NOTE: MOST OF THE OIL WELLS HAVE PASSED THROUGH THE PITTSBURG COAL SEAM.

GENERAL SECTION OF SUMMIT COAL CO'S TRACTS, ———

SHOWING PROPOSED DEVELOPMENT. ———

Accompany Report of
Apr 1903



ANALYSES OF THE PITTSBURG COAL

from Dr. I. C. White's Report on Coal, West Va. Geol. Survey.

(p. 206).

The average of 95 analyses gives the following result:

Moisture	. . . . .	0.89
Volatile Matter	. . . . .	38.52
Fixed Carbon	. . . . .	53.55
Ash	. . . . .	7.04
Sulphur	. . . . .	2.48
Phosphorus	. . . . .	0.0121

On the properties of the Summit Coal Company, the Pittsburg vein lies from 400 to 600 feet below the surface of the valleys. Above the Pittsburg seam are several other veins, known as the Mapleton or Sewickley, which lies about 110 feet above the Pittsburg, and the Waynesburg, approximately 270 feet above the Pittsburg. Below the Pittsburg are the veins of the Conemaugh series, and those of the Allegheny series. *At present operations will be confined to the Pittsburg vein*, and this bed only will be considered in this statement. The vein has been proven by many drill holes made for oil on the properties of the Company, and the adjacent lands. There are now five oil producing wells at Belton, from 2800 to 3000 feet deep, *all of which* have passed through the Pittsburg vein. There are three other wells which are not drilled deep enough for oil, but all of them struck the *Pittsburg coal bed*. Within a mile and a half of Belton, on Fish creek is the Crim No. 1 well which, according to information, encountered the Pittsburg vein at a depth of 630 feet. The records of other wells give the depth at which the Pittsburg seam was encountered from 650 to 800 feet. The elevations of the top of the various drill holes must of course be considered in forming conclusions as to the exact depth at which the Pittsburg coal bed lies.

On the Glen Easton tract, as well as the lands adjoining it, are a large number of drill holes, all of which have struck the Pittsburg seam.

Several of the photographs taken by the writer have been reproduced for this report.

The oil-well driller is required to identify the coal correctly in the great petroleum districts of West Virginia and Pennsylvania between the Ohio and the Monongahela rivers, where it is buried from sight by the Permian beds. It is there a key-lock for determining the amount of casing and the depth of the oil lands, and thus many dollars of expense depend upon the correctness of the driller's identification. It is asserted that in the hundreds and even thousands of holes drilled in this area, he has only two or three mistakes charged against his accuracy of discrimination.

The Pittsburg vein has also been proven by a number of diamond drill holes, made in adjacent lands, near Fish creek. All of these have encountered the Pittsburg bed.

The Pittsburg vein is being extensively worked in several mines at and near Moundsville, distant in a direct line only eight miles northwest of Glen Easton. At the Moundsville shaft, 153 feet deep, the workable coal of the Pittsburg bed is from five to six feet thick. At the Glendale mine shaft, which is 95 feet deep to the Pittsburg, the coal is also from five to six feet thick. These mines were visited by the writer.

According to Dr. I. C. White's report, the coal at the Benwood mine, five miles north of the Glendale, is six and one-half feet thick, and with the roof coal, eight feet.

DEVELOPMENT AND EQUIPMENT.

The site for the working shaft on the Belton tract was selected during my first examination of the property several weeks ago. The exact location of the same and that of the tipple and of the sidings, however, will be determined upon the completion of the detailed surveys now being made. The shaft will be about 26 x 13 feet in size and 600 feet deep, and will be equipped with hoisting machinery, etc., of a capacity of about 2000 tons per day.

A similar equipment is recommended for the development of the Glen Easton tract. As already stated, the valley of Grave creek, through which the main line of the Baltimore and Ohio railroad runs, forming in general the northern boundary of this tract, offers many favorable locations for working plants, railroad sidings and necessary buildings.

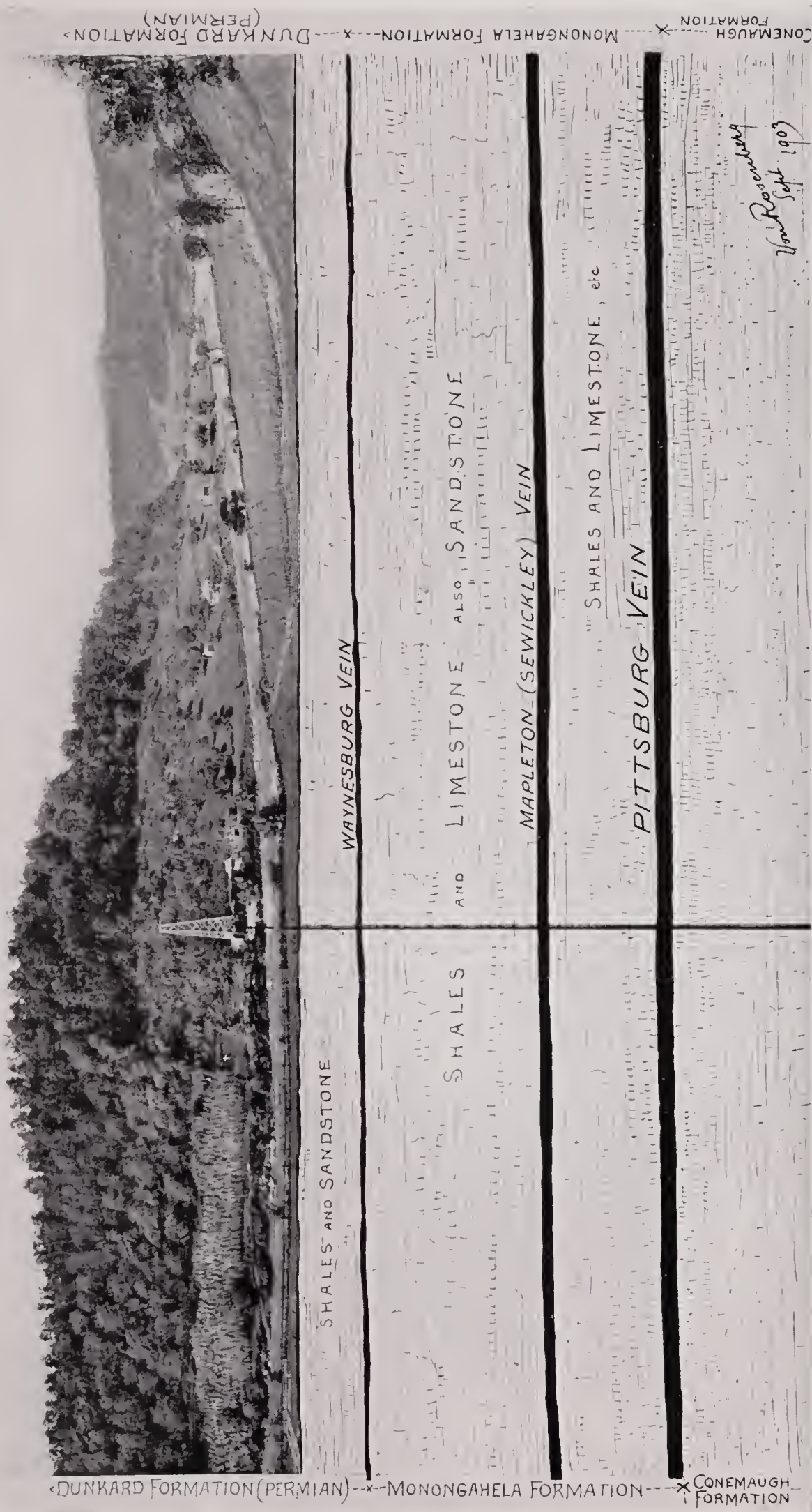


OIL WELLS ON PART OF GLEN EASTON COAL TRACT AND ADJOINING LANDS



Most of the Wells have passed through the Pittsburgh Vein

OIL WELLS ON FISH CREEK.



NOTE : The DUNKARD formation includes all the beds *above* the Waynesburg coal seam of the Monongahela formation. In the Dunkard formation occur several seams of coal which, however, being usually thin are of no importance. They are known as the Nineveh, Dunkard, Jollytown, Washington seams, etc., and are not shown on the sections of this report.

The MONONGAHELA formation embraces the beds from the bottom of the celebrated PITTSBURG coal seam to the top of the WAYNESBURG coal seam. This formation varies from 250 to 300 feet in thickness. About 100 feet *above* the PITTSBURG coal seam lies the Mapleton or Sewickley coal seam. Only the Pittsburg, Mapleton and Waynesburg seams of this formation are shown on the sections in this report, the thinner seams, known as the Uniontown, Redstone coal, etc., being omitted.

The *great* PITTSBURG COAL SEAM *only* is being considered in this report. Its *average thickness* is about 5½ feet on the Belton and Glen Easton Tracts.

Below the Monongahela formation is the CONEMAUGH formation, which includes all the beds from the floor of the Pittsburg seam to the top of the Upper Freeport seam. The thickness of this formation is approximately 600 feet.

Below the Conemaugh formation is the ALLEGHENY formation, about 280 feet thick, and the PORTSVILLE formation, about 270 feet thick. The number of coal veins existing below the Pittsburg coal seam in Marshall county has not been positively determined.

APPROXIMATE SCALE OF ABOVE SECTION 150 FEET TO 1 INCH.

The depth of the shaft in this portion of the property will be approximately 400 feet to the Pittsburg seam.

THICKNESS OF THE PITTSBURG VEIN ON THE COMPANY'S PROPERTY.

The thickness of the *workable* coal of the Pittsburg vein on the Company's properties can be estimated with absolute safety at five and one-half feet. This will yield 9500 tons to the acre.

AMOUNT OF COAL CONTAINED IN THE PITTSBURG VEIN ON THE COMPANY'S PROPERTIES.

At 9500 tons of minable coal to the acre, the amount of coal contained in the Pittsburg seam on the Company's properties is something over 100,000,000 tons; allowing 10% for waste in mining and handling the coal, the amount can safely be placed at 90,000,000 tons.

At a production of 4000 tons per day, the tonnage in the Pittsburg vein on this property will last about seventy-five (75) years.

Owing to the *large tonnage* which will be available from the Pittsburg vein alone the other veins can certainly be left out of consideration at the present time.

REVENUES OF THE COMPANY.

With a daily production of 4000 tons, the Company should earn a net profit of about \$600,000 per annum. With a *complete and modern plant*, the expense of mining and delivering the coal to the railroad cars should not exceed 60 cents per ton, with day labor. In many of the mines the miners are paid by the ton of coal mined. In starting up work on these tracts, the Company will have the advantage of erecting up-to-date plants, with all improvements in hoisting and mining machinery. With coal cutting machines, all mining work ought to be done by day labor.

CONCLUSION.

The facilities for the development of these coal properties are all that could be desired. Their situation on the main line of the Baltimore and Ohio railroad will enable the Company to make shipments

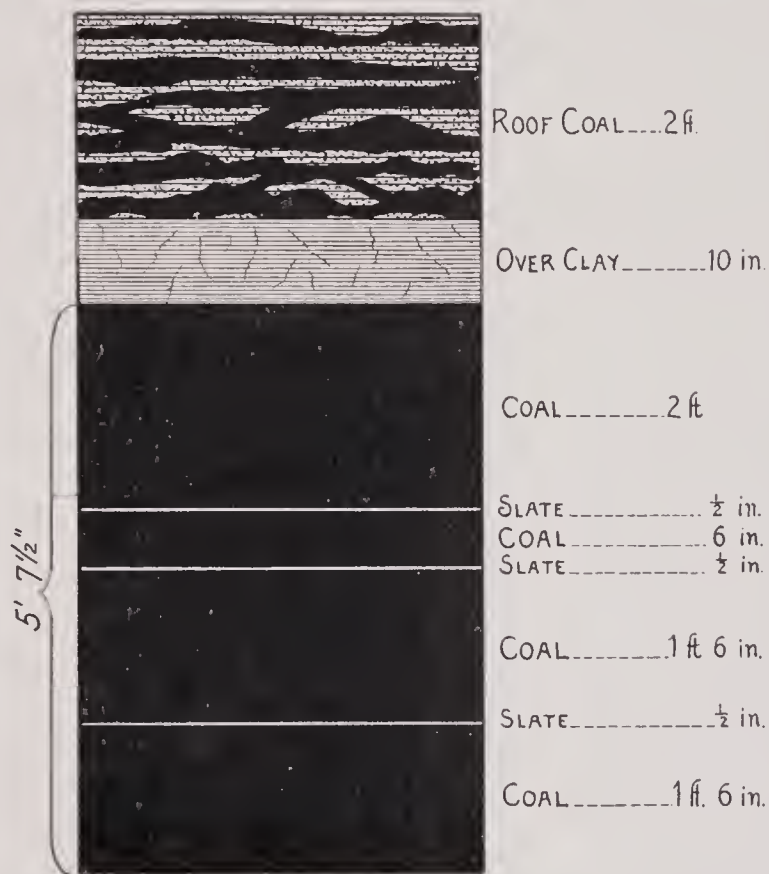
practically as soon as one of the working shafts has reached the vein. In the possession of these coal lands, aggregating 11,300 acres, covering the famous Pittsburg seam, the Company has a very valuable property, which, when completely equipped for a production of 4000 tons per day, will earn very good dividends. A production of only 2000 tons per day, however, will be sufficient to pay a good dividend on the whole investment. The value of the coal lands is bound to increase every year.

Leo Van Rosenberg

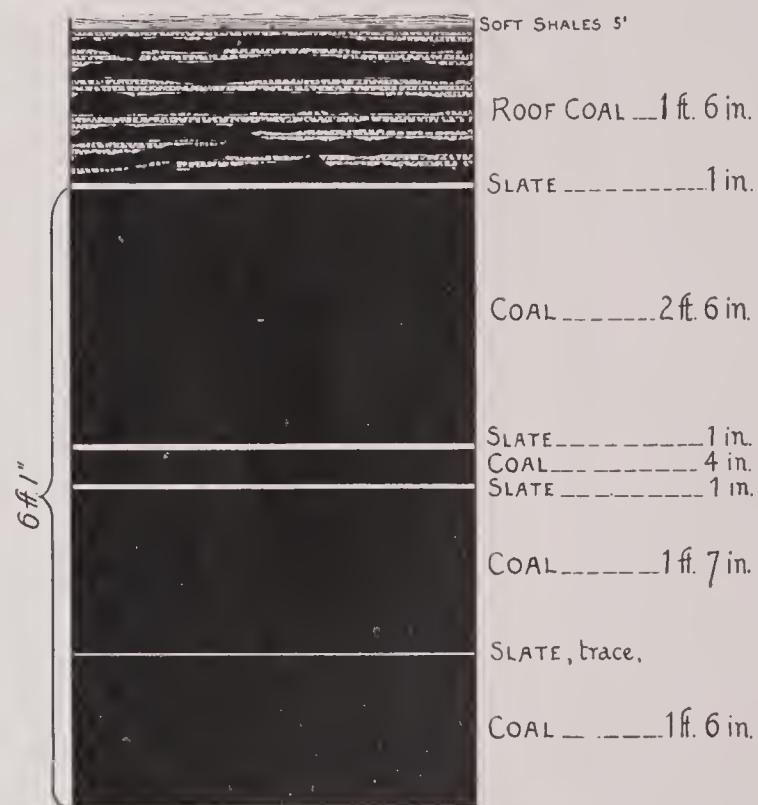
170 Broadway, New York,
September 25th, 1903.

SECTIONS SHOWING STRUCTURE OF THE PITTSBURG COAL BED. MARSHALL COUNTY, WEST VIRGINIA.

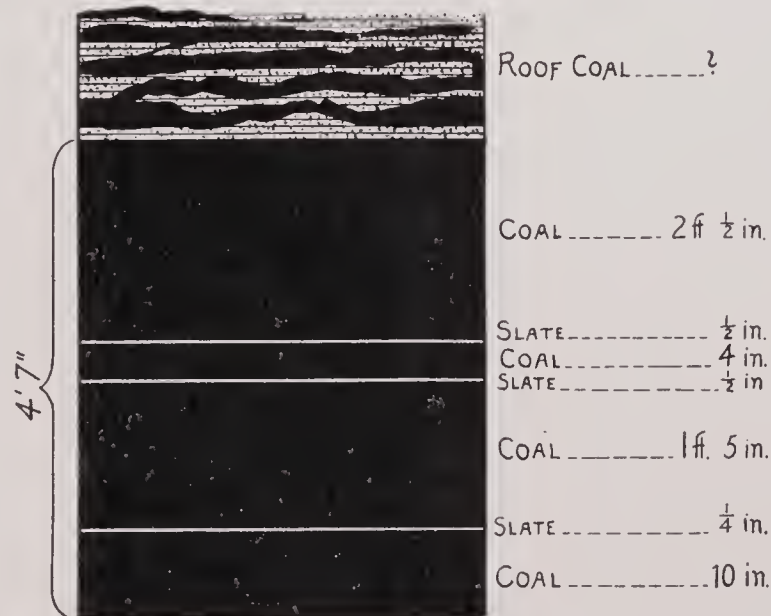
MOUNDSVILLE MINE, Moundsville, W. Va.



BENWOOD MINE, 8 miles north of Moundsville, W. Va.



GLENDALE MINE, near Moundsville, W. Va.



For other Sections see Report, W. Va. Geol. Survey.

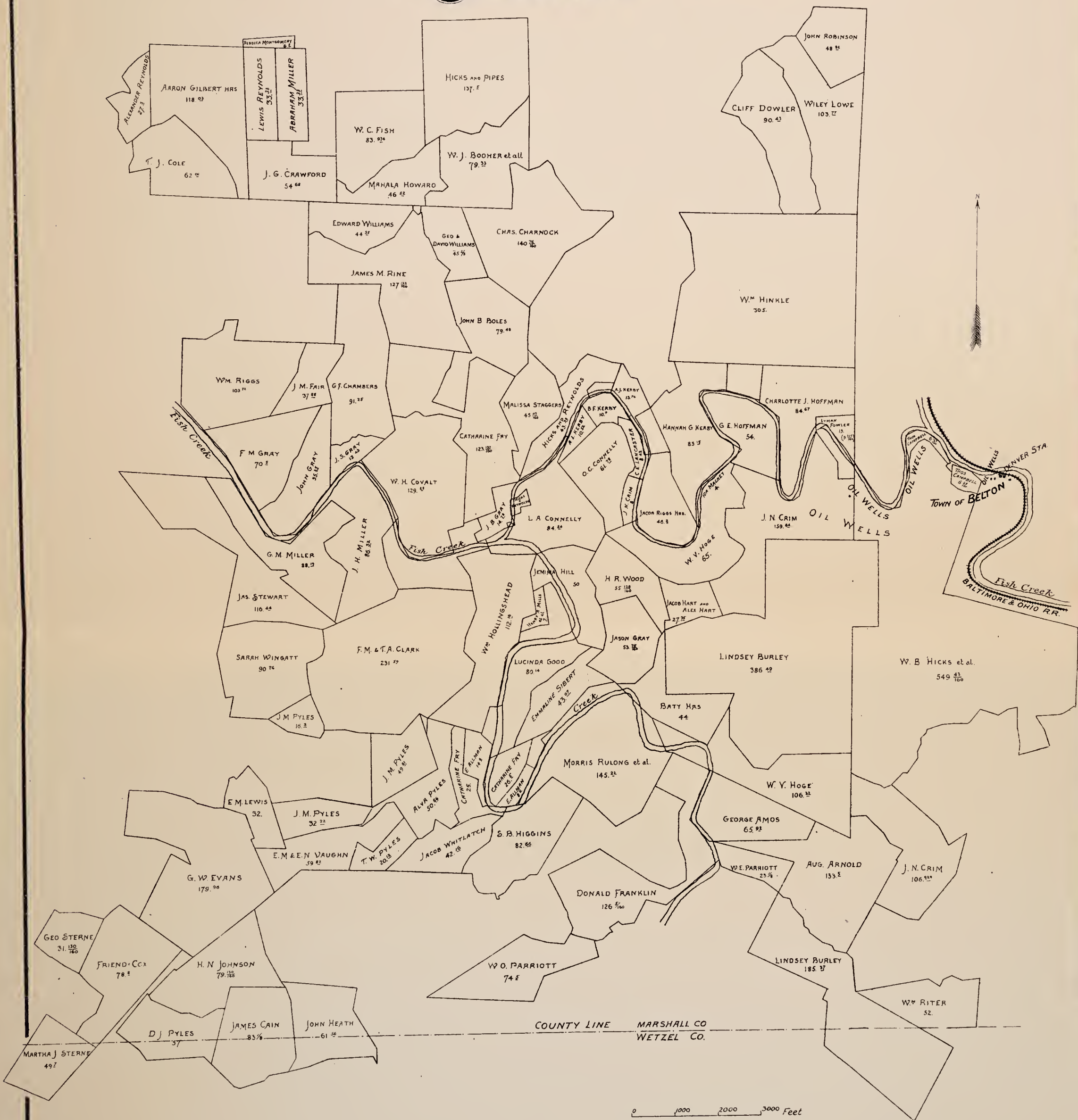
NOTE:

The type of structure of the PITTSBURG COAL BED is practically the same throughout the coal field. The different layers of the structure vary considerably in thickness in different parts of the field and mines.

In the several sections showing the Waynesburg, Sewickley, and Pittsburg Coal Veins, accompanying this report, the thickness of the Pittsburg Vein is given from 5 to 6 feet, or 5 1/2 feet in the average. This refers to the mineable coal only, the roof coal which is not mined being omitted in considering the thickness of the Pittsburg bed. Inclusive of the roof coal the thickness of the Pittsburg bed on the Summit Coal Company's properties is from 6 1/2 to 8 1/2 feet. The oil well drillers report it to be 9 ft. thick at Belton.

To accompany Report of Sept. 25th, 1903,
by Leo von Rosenberg. *ny.*

THE BELTON TRACT
PROPERTY OF
The SUMMIT COAL CO.



To accompany Report of Lieut. Rosenberg
Sept. 25, 1952 ¹⁷⁶ Buzy NY.

APPENDIX.

COAL PRODUCTION OF WEST VIRGINIA.

(PAGE 709, VOL. TWO, REPORT ON COAL, WEST VIRGINIA GEOLOGICAL SURVEY.)

“The growth of coal production in West Virginia has been constantly increasing during the past thirty years, with the exception of two years due to prolonged strikes. Beginning with only 672,000 short tons in 1873, the first year for which we have definite statistics, production has grown until the present year bids fair to surpass 25,000,000 short tons, barring any serious strikes or labor difficulties. The time must soon come when West Virginia will pass Illinois and become the second State in coal production instead of third, a place she has held since 1895, when Ohio was left behind.”

COAL PRODUCTION OF WEST VIRGINIA SINCE 1892.

SHORT TONS.

FROM VOL. TWO, COAL REPORT, WEST VIRGINIA GEOLOGICAL SURVEY.

(PAGE 716.)

1892	.	.	.	.	.	.	.	9,738,755
1893	.	.	.	.	.	.	.	10,708,578
1894	.	.	.	.	.	.	.	11,627,757
1895	.	.	.	.	.	.	.	11,387,961
1896	.	.	.	.	.	.	.	12,876,296
1897	.	.	.	.	.	.	.	14,248,159
1898	.	.	.	.	.	.	.	16,700,999
1899	.	.	.	.	.	.	.	19,252,995
1900	.	.	.	.	.	.	.	22,647,207
1901	.	.	.	.	.	.	.	24,068,402
1902	.	.	.	.	.	.	.	24,307,387
1903	(Estimated)	.	.	.	.	.	.	25,760,000

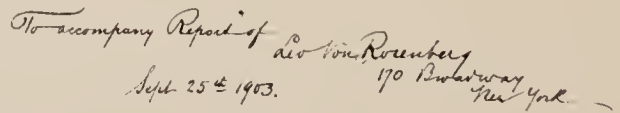
FROM U. S. GEOLOGICAL SURVEY REPORT FOR 1901.

“There is another respect in which the coal-mining industry of West Virginia stands distinctly alone. This is in the fact that although its production now approaches 25,000,000 tons per year, the amount of this fuel consumed within the State’s borders is almost insignificant, if

the amount consumed by the transportation companies is excluded. There are some iron and steel manufacturing industries in Wheeling and vicinity, which utilize West Virginia coal, but except for these, the manufacturing industries in the State are almost entirely undeveloped, and by far the greater proportion of the fuel taken from West Virginia mines goes to feed and support the manufacturing enterprises of neighboring States. This has probably been the result of the fact that the railroad companies penetrating the coal fields have been identified with the coal mining interests, and have been glad to get the advantage of long hauls in the way of transportation.

Some of the West Virginia coals are highly prized, both for steam raising and coke making. They are used to a large extent by the United States Government for naval vessels, and are shipped either in the form of coal or coke to blast furnaces and steel works as far from the coal regions as Chicago and Milwaukee, in competition with fuels mined almost in the immediate vicinity of these cities."

Town
OF
GLEN EASTON



NOV 2 1903

